

CLAIMS

1. A method for simulating wearing of a knit garment on a human model, the human model having a plurality of polygons on a surface of the human model and an axis, the method comprising the steps of:

positioning a virtual knit garment tentatively with respect to the human model in such a way that the axis of the human model passes through an interior of the virtual knit garment;

fitting the tentatively positioned virtual knit garment to the human model by expanding/ shrinking the virtual knit garment toward the axis;

associating each point of the virtual knit garment with the polygons of the human model, wherein a perpendicular line from said each point towards the axis is obtained, a polygon intersecting the perpendicular line is obtained, and said each point associates with the polygon; and

initiating obtaining a polygon associated with a subsequent point from a polygon associated with a neighboring point which is already obtained.

2. The method for simulating wearing of the knit garment on the human model of claim 1, wherein:

prior to said wearing, said virtual knit garment is three-dimensionally expanded beyond a natural size predicted based on at least number of stitches and stitch size; and

subsequently, upon said wearing, a stitch outside the human model is shrunk and a stitch inside the human model is expanded.

3. A wearing simulation device, comprising:

storing means for storing in 3D an axis of a human model, and a position and an

orientation of a plurality of polygons provided on a surface of the human model;

arranging means for tentatively arranging a virtual knit garment in a three-dimensional space, in such a way that said axis passes through an interior of the virtual knit garment; and

wearing means for fitting the virtual knit garment to the human model by shrinking /expanding the virtual knit garment toward the axis for each stitch of the virtual knit garment, obtaining a perpendicular line from said each stitch towards a corresponding axis, associating a polygon intersecting the perpendicular line with said each stitch, initiating obtaining a polygon associated with a subsequent stitch from a polygon associated with a neighboring stitch which is already obtained, and associating each point of a part with a polygon intersecting a direction of the shrinking /expanding.

4. The wearing simulation device of claim 3, further comprising

three-dimensional deformation means for, prior to said wearing, three-dimensionally expanding said virtual knit garment beyond a natural size predicted based on at least number of stitches and stitch size, wherein

upon said wearing, a stitch outside the human model is shrunk and a stitch inside the human model is expanded with said wearing means.

5. A wearing simulation program, comprising:

storing command for storing in 3D an axis of a human model, and a position and an orientation of a plurality of polygons provided on a surface of the human model;

arranging command for tentatively arranging a virtual knit garment in a three-dimensional space, in such a way that said axis passes through an interior of the virtual knit garment; and

wearing command for fitting the virtual knit garment to the human model by shrinking /expanding the virtual knit garment toward the axis for each stitch of the virtual knit garment, obtaining a perpendicular line from said each stitch towards a corresponding axis, associating a polygon intersecting the perpendicular line with said each stitch, initiating obtaining a polygon associated with a subsequent stitch from a polygon associated with a neighboring stitch which is already obtained, and associating each point of a part with a polygon intersecting a direction of the shrinking /expanding.

6. The wearing simulation program of claim 5, further comprising three-dimensional deformation command for, prior to said wearing, three-dimensionally expanding said virtual knit garment beyond a natural size predicted based on at least number of stitches and stitch size, wherein upon said wearing, a stitch outside the human model is shrunk and a stitch inside the human model is expanded with said wearing command.